



# Bird observations on the Indian Ocean island of Rodrigues, March–June 1999

Dave A. Showler

Quand l'île de Rodrigues fut colonisée par l'homme, en 1691, elle comptait au moins 17 espèces de vertébrés endémiques, dont 12 oiseaux, quatre reptiles et une roussette. Toutes, sauf trois, sont maintenant éteintes. L'extinction de cette faune est supposée avoir été provoquée par la destruction de la forêt indigène et la prédation par des mammifères introduits. Les trois espèces encore présentes, le Foudi de Rodrigues Foudia flavicans, la Rousserolle de Rodrigues Acrocephalus rodericanus et la Roussette de Rodrigues Pteropus rodericensis, sont considérées comme étant menacées. Les populations du foudi et de la rousserolle ont été recensées du 31 mars au 5 juin 1999; l'habitat occupé a également été étudié. La population du foudi a été estimée à au moins 911 individus et celle de la rousserolle à au moins 150. La végétation ligneuse indigène ayant complètement disparu, les deux espèces survivent dans des zones dominées par des arbres et arbustes introduits. Malgré le fait que leurs effectifs aient augmenté de facon significative depuis la fin des années 1960, principalement à cause de la régénération de la végétation ligneuse, leur expansion est probablement limitée par la prédation des mammifères introduits et les effets négatifs des cyclones. Les oiseaux indigènes et introduits observés pendant les recensements sont brièvement présentés et des détails sont fournis sur deux espèces occasionnelles, le Chevalier de Sibérie Heteroscelus brevipes et le Martinet épineux Hirundapus caudacutus, observées pour la première fois sur l'île.

#### Introduction

odrigues is one of the world's most ecologically R degraded tropical oceanic islands<sup>14</sup>. At least 17 species of endemic vertebrate—a fruit bat, 12 birds, two giant tortoises and two day-geckos—have inhabited the island. Now all but three are extinct<sup>5</sup>. The extant species, Rodrigues Fody Foudia flavicans, Rodrigues Warbler Acrocephalus rodericanus and Rodrigues Fruit-bat Pteropus rodericensis are all threatened<sup>13,24</sup> (see Appendix 1 for list of extinct bird species). The almost total extinction of the vertebrate fauna is considered to have primarily occurred through a combination of destruction of native forest and predation by introduced mammals. A similar fate has befallen the flora and fauna of many other isolated islands. Today there is no remaining native forest and all but two of the 36–38 endemic flowering plant taxa are Endangered<sup>27</sup>. In 1999, surveys of the two surviving endemic birds were undertaken by Andy Impey (studying the fody) and DAS (the warbler). The survey results are summarised, along with observations of other non-endemic indigenous and naturalised birds, and two vagrants previously unrecorded on the island.

#### Geography and topography

Rodrigues is the most remote of the Mascarenes (which also comprise Mauritius and Réunion), situated in the Indian Ocean, almost 1,500 km east of Madagascar. It is 18.3 km x 8.5 km, with an area of

110 km<sup>2</sup>. Terrain is mostly hilly, the highest point being 396 m. There is a 7-km central ridge on an eastwest axis that averages c300 m in altitude<sup>19</sup>, from which numerous steep-sided valleys radiate seaward. Rodrigues is volcanic in origin and geologically the youngest of the Mascarenes at c2.5 million years old19. It is surrounded by a coral reef, within which lie 18 small islets. Beyond is a shallow 7-20 km-wide submerged shelf and it appears that during the most recent ice age Rodrigues covered a much larger area than at present<sup>7</sup>, perhaps accounting for the high number of endemic species on such a small, young island<sup>28</sup>. Rodrigues was probably entirely forested prior to human colonisation in 1691<sup>27</sup>. Today c25% consists of rough grassland, with scrub and occasional trees, grazed by free-ranging domestic cattle and goats; one-third is cultivated; and 7% 'forest reserve' (planted for watershed and soil protection)<sup>17</sup>, but this comprises almost entirely introduced species, with only a few scattered native trees and shrubs. Rodrigues is densely populated, with over 35,000 inhabitants (323/km²) in 199915 and human dwellings are scattered throughout the island.

#### Rodrigues Fody and Rodrigues Warbler

Rodrigues Warbler is considered Endangered D1 (population <250 mature individuals) and Rodrigues Fody Vulnerable D1; D2 (population <1.000 mature individuals; area of occupancy <100 km<sup>2</sup>)<sup>24</sup>. Historical records suggest that both were formerly common

and probably distributed throughout the island<sup>16,22</sup>. Both are thought to have reached all-time population lows in the late 1960s due primarily to deforestation, but also to the devastating effects of Cyclone Monica, which struck in March 1968. Immediately following this the fody population was thought to be just 5-6 pairs and the warbler to have been 'almost wiped out'25, as three observers failed to find any in December 1969. However, some survived and subsequently Alès, based on limited coverage, estimated a population of no more than 30 individuals in 1971-210. In 1999, during 31 March to 5 June, ten intensive weeklong population censuses and habitat-use surveys, by Andy Impey (of F. flavicans) and DAS (A. rodericanus), were undertaken. Both species' ecologies are poorly known and the only previous comprehensive censuses were undertaken by Cheke<sup>5</sup> in 1974-5, with sporadic surveys of limited coverage since, which nonetheless have indicated a gradual increase in numbers of both species.

#### **Rodrigues Warbler survey results**

A census technique was devised using an amalgamation of point counts and playback of warbler song, and tail-feather moult/re-growth characteristics to enable recognition of individuals in the field. At least 103 warblers in nine wooded localities were observed. Extrapolating from this, based on the area of available habitat, a minimum population of 150 birds was estimated, with a maximum population of c200. It occurs in hills and valleys in the central uplands from c150 m, though mostly above 200 m, to the summit of Mont Limon at 396 m. Most individuals (78%) and the highest densities (2.3/ha) were in scrub and woodland dominated by an introduced invasive tree, Syzygium jambos (jamrosa), native to south-east Asia. It was formerly extensively planted on the island for watershed protection. Other woody species commonly found in habitat occupied by the warbler include Litsea glutinosa, another introduced invasive tree from south-east Asia, and Psidium cattleianum (guava), native to South America. Vegetation analysis indicates that a dense structure of small branches is an important habitat feature, and that low-intensity cutting may promote the growth of new shoots thus perpetuating the vegetation structure favoured by Rodrigues Warbler. The species was occasionally found at low densities in plantations dominated by Swietenia mahogani (mahogany), Tabebuia pallida (tecoma) and Araucaria cunninghamii (Norfolk Island Pine)20.

#### Rodrigues Fody survey results

Territory mapping employing the Common Birds Census technique was used to census the fody. Three hundred and thirty-four territories were mapped, representing a minimum breeding population of 334 pairs. Additionally, 58 unpaired males, 85 juveniles and 100 sub-adult (grey-plumaged) birds were recorded, giving a minimum population estimate of 911 individuals. Over 60% were in tall, mixed exotic forest where densities reached 8/ha: 14% were in more open, patchy forest. Despite not being considered ideal habitat, Syzygium jambos-dominated areas supported 13% of the population. Fody densities increased significantly with tree height, canopy cover and tree species diversity<sup>12</sup>. Like the warbler, most were observed in the central uplands, but it is more widespread and was occasionally observed at low altitudes near the north coast.

#### Conservation outlook

Provided existing areas of tall mixed forest are safeguarded, the future for the fody appears bright<sup>12</sup>. The warbler's situation is more problematic. It has obviously benefited from woodland regeneration over the last three decades, but other population-limiting factors, eg predation by introduced predators such as rats Rattus rattus and R. norvegicus and cats Felis catus, low food availability etc, may be suppressing population growth<sup>20</sup>. In an attempt to bolster their numbers, translocating birds to the ecologically rehabilitated, predator-free islets of Île aux Sables and Île Coco, 3 km off the west coast of the main island, is being considered (C Jones pers comm 1999). In light of the lack of other conservation options it is a strategy worth considering. More research into the ecology of both species is desirable, especially factors constraining distribution, breeding success and survival.

#### Observations of naturalised birds

Nine or 10 species (including Feral Pigeon *Columba livia*) of bird are generally considered to have become fully naturalised on Rodrigues following introduction<sup>3,5,9,25</sup>. Of these one, Grey-headed Lovebird *Agapornis canus* has been eradicated, and Helmeted Guineafowl *Numida meleagris*, previously more widespread, now appears mostly tied to human habitation. Eight introductions can currently be considered fully naturalised: Grey Francolin *Francolinus pondicerianus*, Feral Pigeon, Barred Ground Dove *Geopelia striata*, Yellow-fronted Canary *Serinus mozambicus*, Common Waxbill *Estrilda astrild*, House Sparrow *Passer domesticus*, Madagascar Fody *Foudia madagascariensis* and Common Myna *Acridotheres tristis*. All are widespread and fairly common to abun-

dant, with the exception of *F. pondicerianus*, which appears scarce and local. A summary of introduction dates derived from early accounts of visitors to the island, taken mostly from Staub<sup>25</sup> and Cheke<sup>3</sup>, and notes on current status based on observations in 1999, is presented below:

#### Grey Francolin Francolinus pondicerianus

The date of the first successful introduction is unknown but was probably 1862<sup>5</sup>, possibly earlier<sup>3</sup>. Reported by Slater in 1874<sup>22</sup>, by which time it was well established<sup>5</sup>. It has been hunted to protect maize *Zea mays* crops<sup>5</sup> and for food<sup>9</sup>. Though not observed by Impey or myself it was reported to occur around St Francois and Point Cotton (east Rodrigues) in *Acacia eburnea* and *Lantana camara* scrub (J Marla pers comm 1999). Droppings, presumably of this species, were observed on Île Frégate on 22 May 1999. This island, situated 750 m off the south-west coast, was formerly stocked with francolin for hunting purposes (A Maljković pers comm 1999).

#### Helmeted Guineafowl Numida meleagris

Introduced between 1803 and 1832<sup>3</sup>. In 1857 it was considered plentiful in the north, centre and west of the island<sup>25</sup> but by 1916 it was becoming rare, apparently due to nest predation by feral pigs<sup>5</sup>. Like *F. pondicerianus*, it was hunted to protect crops<sup>25</sup> and was eradicated shortly before 1964<sup>5</sup>. However, in 1999, a pair of free-ranging guineafowl with young was observed on Mont Malartic with domestic hens, and a pair was observed at La Source throughout April–May. It is possible that it could again establish a feral population.

#### Feral Pigeon Columba livia

Introduced between 1874 and 1916. Nesting has been observed on cliffs at Cascade Victoire, on the east coast, and elsewhere<sup>3</sup>. Widespread but not common on the island in 1999.

#### Barred Ground Dove Geopelia striata

According to Bertuchi, released in 1862<sup>5</sup>, but Vinson<sup>29</sup> suggests that it was introduced as early as 1764<sup>25</sup>. This small dove is very common, especially in open woodland, at all altitudes. Flocks of 30–33 were observed around La Source, and another of 72 was seen at Mt Cimetière in April–May 1999.

#### Grey-headed Lovebird Agapornis canus

Tafforet, in 1725, briefly mentioned a third species of Psittacidae that he observed on Rodrigues and some authors, eg Staub<sup>25</sup>, consider this evidence of an early introduction of *A. canus*. Cheke<sup>3,5</sup> argues against this,

believing Tafforet was describing a female *Psittacula exsul* and that it was probably introduced in 1862. It was abundant until 1956, becoming scarce following this, apparently due to a cyclone in 1957<sup>5</sup> and persecution to protect maize crops<sup>3</sup> furthered its demise. Local people reported a few persisting on Île Gombrani (1 km off the south coast) in 1970<sup>26</sup> and in Cascade St Louis in 1974<sup>3</sup>. The last record is thought to be of one in September 1974<sup>3,5</sup>, though Friedmann *et al*<sup>6</sup> mention it to be 'now very rare', without further details. It was not observed in 1999 and appears to have been eradicated from Rodrigues.

#### Yellow-fronted Canary Serinus mozambicus

According to Vinson, introduced around 1764<sup>25</sup>, but the precise date is uncertain, with no definite record before 1964<sup>3,5</sup>. In 1999 it was observed singly and in pairs throughout most of the island. They appeared to favour drier, more exposed areas, eg along the coastal strip in localities planted with *Casuarina equisetifolia*, and inland on open wooded ridges and hillsides, again with *Casuarina* but also other introduced trees such as *Eucalyptus tereticornis*, *Tabebuia pallida* and *Terminalia arjuna*. In April, one was observed, on Mt Cimetière, using the tall flowering spike of an aloe *Fucraea foetida* as a song post.

#### Common Waxbill Estrilda astrild

According to Vinson introduced around 1764<sup>25</sup> but dated as between 1803 and 1864 by Cheke<sup>3,5</sup>. It is now very common in open woodland and cultivated areas at all altitudes throughout the island. Birds were frequently observed carrying nesting material (blades of grass) in April and early May. Three were also seen on Île Frégate in May 1999.

#### House Sparrow Passer domesticus

Apparently first mentioned by Marragon in 1795<sup>25</sup>, but considered to have been introduced between 1874 and 1916 by Cheke<sup>3,5</sup>. It is common in open woodland, cultivated areas and around villages and other habitation throughout the island. Also observed on Île Coco.

#### Madagascar Fody Foudia madagascariensis

According to Moreau this fody reached Rodrigues sometime after 1865<sup>25</sup>, although Cheke<sup>3</sup> suggests that it was introduced between 1874 and 1916. It is common in open woodland and cultivated areas throughout the island.

#### Common Myna Acridotheres tristis

Possibly unsuccessfully introduced between 1795 and 1825, but repeated introduction attempts for

crop-pest control purposes reportedly failed, according to Hoart<sup>25</sup>. Successful introduction is considered to have occurred between 1864 and 1874<sup>3,5</sup>. It is now common in woodland, cultivated areas and villages throughout the island. A large communal roost (several hundred) was noted in a large banyan tree *Ficus benghalensis* in the main town of Port Mathurin on the north coast. Five were seen on Île Frégate in May 1999.

#### Observations of indigenous birds

#### Wedge-tailed Shearwater Puffinus pacificus

An old nest probably of this species among large boulders on Île Frégate, on 22 May 1999. 'Fouquet' (the Creole name for shearwater) reportedly fly to the island at night, according to a local boatman, but it was unclear if any were breeding in 1999. Feral cats are present on this islet (many scats were observed), but it is possible that a small breeding colony persists. A cat-eradication programme was initiated in 1999. This shearwater previously bred on many islets<sup>25</sup> but was probably confined to Frégate as early as 1825<sup>3</sup>.

#### Red-tailed Tropicbird Phaethon rubricauda

A colony of c10 pairs breeds on inland cliffs at Cascade Victoire where *P. lepturus* also nests (C Jones pers comm 1999). A max. count of 13 was made here in May 1999.

#### White-tailed Tropicbird Phaethon lepturus

A colony of c20 pairs breeds at Cascade Victoire (C Jones pers comm 1999). A max. count of eight was made here in May 1999. Three were seen over Île Coco also in May, and singles occasionally over the main island throughout the survey. Reported to probably breed at Anse Baleine and Rivière Bouteille<sup>3</sup> but these localities were not visited in 1999.

#### **Green Heron** Butorides striatus

The race *B. s. javanicus* occurs on Rodrigues<sup>11</sup> and is a common resident along streams, rivers, around dams and on the coast. At least ten were observed on Île Coco on 12 May 1999.

## **Greater Sand Plover** *Charadrius leschenaultii* One on the beach at Port Sud Est on 25 April and two at Baix aux Huitres on 27 April 1999.

#### Grev Plover Pluvialis sauatarola

One at Anse Mourouk on 18 April and 6 May; two on the beach at Port Sud Est on 25 April; five on a sand bank off Île Coco on 12 May 1999.

#### Sanderling Calidris alba

One between Port Sud Est and Point Cotton on 18 April, and two on Île Coco on 12 May 1999.

#### Whimbrel Numenius phaeopus

Three at Anse Mourouk with at least five more between Port Sud Est and Point Cotton on 18 April; 15 along coast in vicinity of Anse Mourouk and Port Sud Est on 25 April; one at Anse Mourouk on 6 May and two on 13 May; and six on a sand bank off Île Coco on 12 May 1999.

#### Greenshank Tringa nebularia

Singles at Anse Mourouk on 25 April, 6 May and 13 May, and one at Baix aux Huitres (west of Port Mathurin) on 27 April 1999.

#### Ruddy Turnstone Arenaria interpres

The most numerous wader: max. 33 at Anse Mourouk on 18 April, with 19 at Port Sud Est on 25 April, and three on a sand bank c250 m south-east off Île Coco on 12 May 1999.

#### Lesser Crested Tern Sterna bengalensis

One adult and one immature off Baie Pistache on 12 May 1999 were distinguished from *S. bergii* by the slimmer, orange bill and paler upperparts. This may constitute the first record, though it was listed by Hartlaub, quoting Newton who referred to *Sterna velox*<sup>3</sup>. Hartlaub uses the synonym *S. velox* in discussion of both crested terns, complicating matters by adding a third 'species' *bernsteini*, but there is no reason to suppose that Newton was using *velox* to denote anything other than *S.bergii/bernsteini*<sup>3</sup>.

#### Sooty Tern Sterna fuscata

Breeding colony on beach at south-west tip of Île Coco, with 200+ adults and juveniles (including some incubating/brooding young) on 12 May 1999.

#### **Lesser Noddy** Anous tenuirostris

Breeding colony on beach at southern tip of Île Coco: 200+ adults (some incubating) and juveniles, and 45 fledglings on 12 May 1999. A total of 4,620 nests was counted in August 1991<sup>1</sup>.

#### Brown Noddy Anous stolidus

Breeding colony on ground and in *Casuarina* equisetifolia on Île Coco numbered 200+ adults and juveniles on 12 May 1999. A total of 288 nests was counted in 1991<sup>1</sup>.

#### Fairy Tern Gygis alba

Ten to 20 pairs breed on Île aux Sables (C Jones pers comm 1999). At least five were around nearby Île Coco (1.25 km to the south of Sables) on 12 May 1999.

#### **Vagrants**

Two species were recorded for the first time on Rodrigues. These are considered vagrants (having been recorded fewer than 10 times) to the region encompassing Madagascar, the Seychelles, the Comoro and the Mascarenes<sup>21</sup>.

#### Grey-tailed Tattler Heteroscelus brevipes

One in a silt inlet recently planted with mangrove at Anse Mourouk on 18 April 1999. Presumably the same bird seen again on the beach at Port Sud Est, 500 m to the west of the first sighting, on 25 April. Prolonged views were obtained but only upon hearing the distinctive two-note call was it positively distinguished from *H. incanus*.

#### White-throated Needletail Hirundapus

caudacutus

One was observed flying around the vicinity of Mont Malartic on 26 April 1999 and was present at the same locality on the following two days. Easily distinguished from other *Hirundapus* species by the combination of strongly contrasting white throat, pale lores and pale 'saddle'.

#### **Acknowledgements**

I am extremely grateful to Anthony Cheke for his comments concerning the status of birds on Rodrigues, and for making his unpublished checklist available, which forms the basis of Appendix 2. In addition, many thanks to Andy Impey for his records and observations; Dr Carl Jones for initiating the fody and warbler surveys and other Mauritian Wildlife Foundation (MWF) staff, especially Aleks Maljković (former Plant Conservation Officer) and Richard Payendee (Conservation Officer) for general assistance; the Rodrigues Forestry Services, especially Jacques Leclerc Marla and Ravan (Forestry Guards) for their enthusiastic help in conducting surveys; and Roger Safford for comments on a draft of this paper. BirdLife provided use of their library and computer facilities. The field work was funded by MWF and School of Biological Sciences, University of East Anglia, Norwich, under the supervision of Dr Isabelle Côté. 🎓

#### References

1. Anon. 1993. Trinity College Dublin, Rodrigues Expedition, 1991 Expedition Report; Île Aux Coco Nature Reserve. Dublin: Trinity College.

- Cheke, A.S. 1974. British Ornithologists' Union Mascarene Islands Expedition. London, UK: British Ornithologists Union.
- 3. Cheke, A.S. 1976. Checklist of the Birds of Rodrigues. Unpublished ms.
- Cheke, A.S. 2001. Booby *Sula* colonies in the Mascarene area (Indian Ocean): extinctions, myths and colour morphs. *Bull. Br. Ornithol. Cl.* 121: 71– 80.
- Diamond, A.W. (ed) 1987. Studies of Mascarene Island Birds. Cambridge, UK: Cambridge University Press.
- Dowsett, R.J and Dowsett-Lemaire, F. 1993. A Contribution to the Distribution and Taxonomy of Afrotropical and Malagasy birds. Tauraco Research Report No. 5. Liège: Tauraco Press.
- Fisher, R.I., Johnson, G.L. and Heezen, B.C. 1967.
   Mascarene Plateau, Western Indian Ocean. Bull. Geol. Soc. Amer. 78: 1247–1266.
- 8. Friedmann, F., Guého, J. and Staub, F. 1977. *Guide des Principles Plantes Indigènes et des Oiseaux de Île Rodrigues*. Revue Agricole et Sucriere 56.
- 9. Gill, F.B. 1967. Birds of Rodriguez Island (Indian Ocean). *Ibis* 109: 383–390.
- 10. Gomy, Y. 1973. Voyage en île d'amertume. *Info-Nature Île Réunion* 9: 72–99.
- 11. del Hoyo, J., Elliot, A. and Sargatal, J. (eds) 1992. *Handbook of the Birds of the World.* Vol 1. Barcelona: Lynx Edicions.
- 12. Impey, A. 2000. Weaving their way to safety. *BTO News* 229: 19–20.
- 13. IUCN. 1996. *Red List of Threatened Animals*. Gland: International Union for the Conservation of Nature.
- 14. Maunder, M., Culham, A. and Hankermer, C. 1997. Picking up the pieces: biological conservation of degraded oceanic islands. In Fiedler, P.L. and Kareiva, P.M. (eds) *Conservation Biology*. Second edition. London, UK: Chapman and Hall.
- 15. Ministry of Rodrigues. 1999. *Human Population Census*, Mauritius: Government of Mauritius.
- 16. Newton, A. 1865. On two new birds from the island of Rodriquez. *Proc. Zool. Soc. London* [1865]: 46–48.
- 17. OSTROM and MSIRI. 1986. Les Sols de L'Île Rodrigues. Mauritius: Office de la Recherché Scientifique et Technique Outré-Mer & Mauritius Sugar Industry Research Institute.
- 18. Rowlands, B.W. 1987. Seabirds and shorebirds observed on Rodrigues and lagoon islets in July 1986. *Cormorant* 14: 31–38.
- 19. Saddul, P. 1995. *Mauritius: a Geomorphical Analysis*. Moka: Mahatma Gandhi Institute Press.
- Showler, D.A. 1999. Population census and habitat use of Rodrigues Warbler *Acrocephalus rodericanus* (Aves: Sylviidae). MSc Thesis. Norwich: University of East Anglia.
- 21. Sinclair, I. and Langrand, O. 1998. *Birds of the Indian Ocean Islands*. Cape Town: Struik.

- Slater, H.H.C. 1875. Notes on the birds of Rodriguez.
   MS in Newton Library. Cambridge, UK: Cambridge University Zoology Department.
- Smith, D.S and Cheke, A.S. 2000. The first record of a Short-tailed Shearwater *Puffinus tenuirostris* for the Mascarene Islands. *Bull. Br. Ornitbol. Cl.* 120: 259–260.
- 24. Stattersfield, A.J. and Capper, D.R. (eds) 2000. *Threatened Birds of the World*. Cambridge, UK: BirdLife International & Barcelona: Lynx Edicions.
- 25. Staub, F. 1973. Birds of Rodriguez Island. *Proc. Royal Soc. Arts and Sci. Mauritius* 4: 17–59.

- Staub, F. 1976. Birds of the Mascarenes and Saint Brandon. Mauritius: Organisation Normale des Enterprises.
- 27. Strahm, W. 1989. *Plant Red Data Book for Rodrigues*. Königstein: Koeltz Scientific Books.
- 28. Strahm, W.A. 1993. The conservation and restoration of the flora of Mauritius and Rodrigues. PhD thesis. Reading: University of Reading.
- 29. Vinson, J. 1964. Quelques remarques sur L'Île Rodrigues et sur sa faune terrestre. *Proc. Royal Soc. Arts and Sci. Mauritius* 2: 263–271.

E-mail: dashowler@botmail.com.

Appendix 1. Extinct endemic birds of Rodrigues. (Sources: Diamond<sup>5</sup> and Stattersfield & Capper<sup>24</sup>)

Scientific name	English name	Last recorded
Nycticorax megacephalus	Rodrigues Night-heron	1726
Aphanapteryx leguati	Rodrigues Rail	1726
Pezophaps solitaria	Rodrigues Solitaire	1761
Alectroenas rodericana¹	Rodrigues Pigeon	1726
Psittacula exsul	Newton's Parakeet	1875
Necropsittacus rodericanus	Rodrigues Parrot	1761
Mascarenotus murivorus	Rodrigues Owl	1726
Hypsipetes sp.	bulbul	Known only from sub-fossil bones
Necrospar rodericanus	Rodrigues Starling	1726
Rodriguites microcarina	unknown affinity	Known only from sub-fossil bones

<sup>&</sup>lt;sup>1</sup>May warrant a monotypic genus, but further work is required.

### **Appendix 2.** Checklist of the birds of Rodrigues. Compiled by Dave A. Showler and Anthony Cheke

The checklist is intended to be as complete and up to date as possible, and includes introduced species considered fully naturalised (or formerly so). Extinct endemics are listed separately in Appendix 1. Rodrigues is an ornithologically very under-watched island and previously unrecorded species, especially seabirds and waders, are to be expected. Seabirds observed in nearby waters include Flesh-footed Shearwater Puffinus carneipes and Wilson's Storm-petrel Oceanites oceanicus<sup>3</sup>. Two calidrids, either Red Knot Calidris canutus or Great Knot C. tenuirostris, at Port Sud Est in 1999, could not be conclusively identified. Details of additional species are welcome. The checklist is compiled from two primary references; Staub<sup>25</sup> and Cheke<sup>3</sup>, with the addition of Common Tern Sterna hirundo in 1982 (C Jones pers comm), Light-mantled Sooty Albatross Phoebetria palpebrata, recorded for the first time in 198618, Ringed Plover Charadrius hiaticula and Common Sandpiper Actitis hypoleucos in 1997, and Grey-tailed Tattler Heteroscelus brevipes, Lesser Crested Tern Sterna bengalensis and Whitethroated Needletail Hirundapus caudacutus, observed in 1999.

Dowsett & Dowsett-Lemaire<sup>6</sup> published the most recent bird checklist for Rodrigues. Red-tailed Tropicbird *Phaethon rubricauda* was omitted from this list, but its presence as a breeding bird on Rodrigues is well known. Helmeted Guineafowl *Numida meleagris* was also omitted, probably on the basis that while formerly naturalised it had been eradicated by the early 1960s<sup>5</sup>. However, some free-ranging birds were observed in 1999 (see Observations of naturalised birds above) and we therefore include it here. The occurrence/status of four species listed by Dowsett & Dowsett-Lemaire requires clarification.

Yellow-nosed Albatross Thalassarche (Diomedea) chlororhynchos An immature albatross beached following a cyclone in December 1972 was initially identified as a Yellow-nosed and was listed as such by Dowsett & Dowsett-Lemaire. However, subsequent examination of a photograph of the bird demonstrates this identification to be incorrect. It was thereafter considered to be an immature Blackbrowed Albatross Thalassarche (=Diomedea) melanophrys³ but the virtually identical Campbell Albatross T. impavida (recently raised to species rank) could not be eliminated. Further examination sugests that it is more likely an immature Shy Albatross T. cauta (or eremita/salvini, which have also recently been accorded species rank), but it cannot be assigned further. It is therefore included as Thalassarche sp. below.

#### Common Quail Coturnix coturnix

Incorrectly listed as a native resident. The species has never been native on any of the Mascarenes and it appears probable that Dowsett & Dowsett-Lemaire wrongly quoted Staub 1973<sup>25</sup>, who discussed it for Mauritius, in a section on introduced birds. Colin reported 12 'quails' (species unknown) released on Rodrigues in the 1860s, which were rapidly 'destroyed by wild cats'<sup>5</sup>. This appears to be the only reference to quails on Rodrigues and therefore *C. coturnix* is omitted from the checklist.

#### Grey-headed Lovebird Agapornis canus

Dowsett & Dowsett-Lemaire list it as 'record definitely rejected' referencing Diamond<sup>5</sup> as the source. This is erroneous as Cheke (in Diamond)<sup>5</sup> discusses its introduction (see above) and given the several references concerning this lovebird on Rodrigues<sup>9,25</sup> its former presence as a naturalised species is apparent.

#### Java Sparrow Pada oryzivora

Listed by Dowsett & Dowsett-Lemaire as 'occurrence requires proof'. Staub<sup>25</sup> is quoted, but like Common Quail the species is clearly mentioned only for Mauritius. Slater<sup>22</sup> reported a few Java Sparrow on Rodrigues, but this is considered a short-lived introduction as the species was not recorded by others<sup>5</sup>. It is therefore omitted here.

The following species, sometimes considered as having occurred in Rodrigues, are rejected on the following rationale.

#### Ringed Plover Charadrius hiaticula

Indicated as occurring by Sinclair & Landgrand<sup>21</sup> based on observations in February 1997 by R Charles (I Sinclair pers comm 2001). No further details.

#### Eurasian Curlew Numenius arguata

Rejected as there is no confirmed record; Newton<sup>16</sup> thought he saw a curlew (but was uncertain) as did Rountree in 1943<sup>3</sup>. Whimbrel is regular on Rodrigues, thus it is possible that these records refer to this species. However, Curlew is a regular visitor to Mauritius and can be expected on Rodrigues.

#### Common Sandpiper Actitis hypoleuca

Indicated as occurring by Sinclair & Landgrand<sup>21</sup> based on observations in February 1997 by R Charles (I Sinclair pers comm 2001). Occurrence expected as it is a common visitor to Mauritius<sup>26</sup>.

#### Checklist of the Birds of Rodrigues

Scientific name	English	Creole (French)	Status
Thalassarche (Diomedea) sp.	albatross	(albatros)	V: an immature found alive on a beach following a cyclone in 1972. Examination of a photo shows it to be a sub-adult <i>T. melanophris</i> ³ (or <i>impavida</i> ), or Shy Albatross <i>T. cauta</i> (or <i>eremita/salvini</i> )
Phoebetria palpebrata	Light-mantled Sooty Albatross	(Albatros fuligineux)	V: an emaciated bird on the south coast in July 1986 <sup>18</sup>
Macronectes giganteus/halli	Southern Giant Petrel/ Northern Giant Petrel	(Fulmar géant/ Fulmar de Hall)	V: one collected following a cyclone in 1956; specimen subsequently rotted and species not determined <sup>3</sup>
Pterodroma baraui	Barau's Petrel	Fuke, 'fouquet' (Pétrel de Barau)	?: one record of confirmed breeding; at Quatre Vents, in 19743.5
Pterodroma aterrima	Mascarene Petrel	Fuke, 'fouquet' (Pétrel de Bourbon)	Only documented evidence is a mandible found in Plaine Corail caves in 19th century <sup>3</sup>
Puffinus pacificus	Wedge-tailed Shearwater	Fuke, 'fouquet' (Puffin Fouquet)	?: formerly bred on several offshore islets. Probably confined to Île Frégate by 1825, where it possibly still breeds <sup>3,26</sup>
Puffinus tenuirostris	Short-tailed Shearwater	(Puffin à bec grêle)	V: one found alive on a beach in June 1974 <sup>23</sup>
Phaethon rubricauda	Red-tailed Tropicbird	Paille-en-queue [ruz], payañke [ruz] (Phaéton à brins rouges)	Local breeder (c10 pairs)
Phaethon lepturus	White-tailed Tropicbird	Paille-en-queue, payañke (Phaéton à bec jaune)	Local breeder (c20 pairs)
Sula sula	Red-footed Booby	Fu, tratra (Fou à pieds rouges)	Extirpated: formerly bred on Île Frégate (and possibly other islets), but no longer nesting by 1916 <sup>3,4</sup>
Papasula abbotti	Abbott's Booby	Bef, 'bœuf' (Fou d'Abbot)	Extirpated: formerly bred. Probably survived until 1857 <sup>3,4</sup>
Fregata minor	Greater Frigatebird	Fregat, 'frégate' (Frégate du Pacifique)	Perhaps formerly bred (see <i>F. ariel</i> ). Only one definite record; an adult male over the sea near Île Coco in 1942 <sup>3</sup>
Fregata ariel	Lesser Frigatebird	Fregat, 'frégate' (Frégate ariel)	F. ariel and/or F. minor formerly bred on Île Frégate, where last reported nesting in 1795. Several observations of unidentified frigatebirds since, but only one specific record; one collected following a cyclone in 1956 <sup>3,25</sup>
Butorides striatus	Green Heron	Bégasse, gasse (Héron vert)	Common R
Phoeniconaias minor	Lesser Flamingo	(Flamant nain)	V: two at Baie aux Huitres in 19233
Anas querquedula	Garganey	(Sarcelle d'été)	V: two following a cyclone in January 19453
Numida meleagris	Helmeted Guineafowl	Peñtad, 'pintade' (Pintade de Numidie)	R, I: formerly naturalised, now only occasional free-ranging birds
Francolinus pondicerianus	Grey Francolin	Perdzi, perdrix, 'perduit' (Francolin gris)	R, I: uncommon

Porphyrio alleni	Allen's Gallinule	(Talève d'Allen)	V: one in December 1873; specimen in Newton collection, Cambridge <sup>3</sup>
Dromas ardeola	Crab Plover	(Drome ardéole)	?M¹: uncommon
Charadrius hiaticula	Ringed Plover	(Pluvier grand-gravelot)	?V: recorded in February 1997 by R Charles (I Sinclair pers comm)
Charadrius leschenaultii	Greater Sand Plover	(Pluvier de Leschenault)	?M: rare/irregular
Pluvialis squatarola	Grey Plover	Zalwet (Pluvier argenté)	M: on coast in small numbers
Calidris alba	Sanderling	alouette de mer (Bécasseau sanderling)	M: small numbers year-round, mostly on offshore islets <sup>2</sup>
Calidris minuta	Little Stint	(Bécasseau minute)	?M1: rare/irregular
Calidris ferruginea	Curlew Sandpiper	Zalwet (Bécasseau cocorli)	M: occurs year-round, mostly on offshore islets 1,3,25
Limosa Iapponica	Bar-tailed Godwit	(Barge rousse)	?M¹
Numenius phaeopus	Whimbrel	Korbizo, 'corbiseau' (Courlis corlieu)	M: on coast in small numbers, mostly summer visitor <sup>3</sup> , with a few winter records <sup>18</sup>
Tringa nebularia	Greenshank	Zalwet (Chevalier aboyeur)	M: on coast in small numbers
Heteroscelus brevipes	Grey-tailed Tattler	(Chevalier de Sibére)	V: one on south coast, in April 1999
Actitis hypoleucos	Common Sandpiper	(Chevalier guignette)	?V: recorded in February 1997 by R Charles (I Sinclair pers comm)
Arenaria interpres	Ruddy Turnstone	Zalwet, eswifes	M: present year-round, considered the commonest
	·	(Tornepierre à collier)	wader <sup>3</sup>
Sterna dougallii	Roseate Tern	Golãn, 'golon' (Sterne de Dougall)	?: probably sporadic breeder on various offshore islets 3.25
Sterna bergii	Greater Crested Tern	Golãn, malen	?: one record, Slater in 1874 collected two3.25, but also
		(Sterne huppée)	reported by local fishermen <sup>3</sup>
Sterna bengalensis	Lesser Crested Tern	(Sterne voyaguese)	M?: uncommon
Sterna hirundo	Common Tern	(Sterne pierregarin)	?: one definite record, two on 1 March 1982 (C Jones pers comm)
Sterna fuscata	Sooty Tern	Golet, yéyé, 'goilette' (Sterne fuligineuse)	Local breeder on offshore islets
Sterna albifrons/ saundersi	Little Tern/ Saunders' Tern	(Sterne naine /Sterne de Saunders)	?V: recorded in 1991 off Île Coco¹
Anous tenuirostris	Lesser Noddy	Malen, marianne (Noddi marianne)	Local breeder on offshore islets
Anous stolidus	Brown Noddy	Malen, macoua (Noddi brun)	Local breeder on offshore islets
Gygis alba	Fairy Tern	Golet blan, golon, 'goilette' (Gygis blanche)	Uncommon local breeder on offshore islets (10–20 pairs)
Columba livia	Feral Pigeon	Pizoñ (Pigeon biset)	R, I : fairly common, widespread
Geopelia striata	Barred Ground Dove	Tutrel, çettel, 'tourterelle' (Géopélie zébrée)	R, I: common, widespread
Streptopelia picturata	Madagascar Turtle-Dove	(Pigeon de Madagascar)	Extirpated, but recently confirmed as having been a native (see <i>Smithsonian Contrib. Paleobiol.</i> 89: 1–38)
Agapornis canus	Grey-headed Lovebird	Perriçe, peris (Inséperable à tête grise)	Introduced in 1862, common until 1956, but last reported in 1974 <sup>3</sup>
Hirundapus caudacutus	White-throated Needletail	(Martinet épineux)	V: one in April 1999
Acrocephalus rodericanus	Rodrigues Warbler	Zwazo loñbek, zoiseau longbec, 'fauvette'	ER: min. population c150 birds in 1999, local
Acridotheres tristis	Common Mynah	Marten, 'martin' (Martin triste)	R, I: common, widespread
Passer domesticus	House Sparrow	Mwano, 'moineau' (Moineau domestique)	R, I: common, widespread
Foudia madagascariensis	Madagascan Fody	Kardinal, seriñ ruz (Cardinal Rouge de Madagascar)	R, I: common, widespread
Foudia flavicans	Rodrigues Fody	Zoiseau zaune, seriñ zon (Foude de Rodrigues)	ER: min. population 911 birds in 1999, local
Estrilda astrild	Common Waxbill	Beñgali, bengali (Astrild ondulé)	R, I: common, widespread
Serinus mozambicus	Yellow-fronted Canary	Sereñ, serin (Serin du Pays)	R, I: uncommon but widespread

Key: E—Endemic, I—Introduced, M—Passage migrant, R—Resident, V—Vagrant, ?—Status uncertain.

Note on vernacular names: Creole names (somewhat variable and spellings may vary due to transliteration difficulties) taken from Cheke³ and pers comm (2001), Friedmann *et al*³ and Staub²⁵.